We claim:

- 1. In a computer system, a method of representing video data for a video image, the method comprising:
- representing chroma and luma information for a pixel in the video image in an n-bit representation, the n-bit representation comprising a 16-bit fixed-point block of data for the pixel, where the most significant byte in the 16-bit unit of data is an integer component, where the least significant byte in the 16-bit unit of data is a fractional component, and where the n-bit representation is convertible to a lower-precision representation by assigning zero values to one or more of the bits in the least significant byte.
 - 2. The method of claim 1 wherein the n-bit representation is a 16-bit representation and the lower-precision representation is a 10-bit representation.
 - 3. The method of claim 1 further comprising converting the n-bit representation to an (n-m)-bit representation by assigning zero values to the m least-significant bits in the least-significant byte.
- 20 4. The method of claim 1 wherein the chroma information is sampled at a resolution less than the luma information.
 - 5. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 1.
 - 6. In a computer system, a method of representing video data for a video image, the method comprising:

representing chroma and luma information for a pixel in the video image in an n-bit representation, the n-bit representation comprising a 16-bit fixed-point block of

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data for the pixel, where the most significant byte in the 16-bit unit of data is an integer component, where the least significant byte in the 16-bit unit of data is a fractional component, and where the n-bit representation is convertible to a higher-precision representation by changing an identifier for the video data.

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- 7. The method of claim 6 wherein the identifier is a FOURCC code.
- 8. The method of claim 6 wherein the n-bit representation is a 10-bit representation and the higher-precision representation is a 16-bit representation.

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- 9. The method of claim 6 wherein the chroma information is sampled at a resolution less than the luma information.
- 10. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 1.
 - 11. In a computer system, a method of representing video data for a video image, the method comprising:

representing video data for the video image in a packed format representation,
the video data consisting of color channel data and alpha channel data for each of plural pixels in the video image, the packed format representation having a color channel bit precision of greater than eight bits per color channel.

- 12. The method of claim 11 wherein the color channel data has a bit precision of 10 bits per channel.
 - 13. The method of claim 11 wherein the alpha channel data consists of 2 bits per pixel.

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- 14. The method of claim 11 wherein the color channel data has a bit precision of 16 bits per channel.
- 15. The method of claim 11 wherein the alpha channel data consists of 165 bits per pixel.
 - 16. The method of claim 11 where the video data is in a 4:2:2 sub-sampling format.
- 17. The method of claim 11 where the video data is in a 4:4:4 sub-sampling format.
 - 18. The method of claim 11 wherein the color channel data is in a YUV color space.
 - 19. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 11.
- 20. In a computer system, a method of representing pixel data for a video image in a packed format, the method comprising:

storing first luma data for a first pixel in a first unit of memory;

storing first chroma data shared by the first pixel and a second pixel in a second unit of memory at a higher memory address than the first unit of memory;

storing second luma data for the second pixel in a third unit of memory at a higher memory address than the second unit of memory; and

storing second chroma data shared by the first pixel and the second pixel in a fourth unit of memory at a higher memory address than the third unit of memory;

wherein the first and second luma data and the first and second chroma data have a bit precision of greater than eight bits per channel.

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- 21. The method of claim 20 wherein the first and second luma data and the first and second chroma data have a bit precision of 10 bits of data per channel.
- 5 22. The method of claim 20 wherein the first and second luma data and the first and second chroma data have a bit precision of 16 bits of data per channel.
 - 23. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 20.
 - 24. A computer-readable medium having stored thereon a four-character code for digital video data, the four-character code operable to indicate a format of the digital video data in a computer system, the four-character code comprising:
 - a first character based on whether the format is a packed format or a hybrid planar format;

a second character based on chroma sampling in the format; and third and fourth characters based on a bit precision of the format.

- 25. The computer-readable medium of claim 24 wherein the four-character code is included in a file header of a file containing the digital video data.
 - 26. The computer-readable medium of claim 25 wherein the four-character code is changeable to cast the format of the digital video data to a different bit precision.
 - 27. In a computer system, a method of representing video data for a video image, the method comprising:

representing the video data in a hybrid planar format representation, the hybrid planar format representation having a bit precision of greater than eight bits per channel,

the hybrid planar format representation having a first array comprising luma information for pixels in the video image and a second array comprising chroma information for the pixels in the video image, and where the chroma information is stored within the second array in a packed format.

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- 28. The method of claim 27 wherein the video data is in a 4:2:2 subsampling format.
- 29. The method of claim 27 wherein the video data is in a 4:2:0 sub-10 sampling format.
 - 30. The method of claim 27 wherein the video data is in a 4:1:1 subsampling format.
- 15 31. The method of claim 27 wherein the chroma information is stored as interleaved pairs of chroma components.
 - 32. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 27.

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33. In a computer system, a method of representing video data for a video image, the method comprising:

representing video data in a hybrid planar format representation, the hybrid planar format representation having a bit precision of greater than or equal to eight bits per channel, where the hybrid planar format representation includes a first array comprising luma information for pixels in the video image and a second array comprising chroma information for the pixels in the video image, where the chroma information is stored within the second array in a packed format, and where the chroma information is sub-sampled in the horizontal direction by a factor of two.

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34. The method of claim 33 wherein the video data is in a 4:2:2 subsampling format.